



THE AREA
REDEVELOPMENT




BOOKSHELF OF
COMMUNITY AIDS

INVESTING IN JOBS

U. S. DEPARTMENT OF COMMERCE

Area Redevelopment Administration

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INVESTING IN JOBS



U. S. DEPARTMENT OF COMMERCE

Luther H. Hodges, Secretary

Area Redevelopment Administration

William L. Batt, Jr., Administrator

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FOREWORD

The Area Redevelopment Act, which President Kennedy signed into law on May 1, 1961, provides some important new tools to augment the self-help efforts of areas suffering from chronic unemployment or underemployment.

To stimulate economic growth and to help create new job opportunities in these areas, the Area Redevelopment Act provides:

- Loans to new or expanding industries;
- Loans and grants to communities for public facilities which are vital if new firms are to get started or existing ones are to expand;
- Technical assistance to help find answers to long-standing economic problems;
- Job retraining, including subsistence allowances, to equip the work force for jobs in new and expanding industries.

Before a redevelopment area can take advantage of these Federal aids, however, it needs to know where it's going and how it plans to get there. It needs, for example, some basic information on the relationship between the dollars that are invested in various types of manufacturing and the number of direct new jobs that will result.

This publication was planned to help local redevelopment groups and others concerned with economic development learn more about this ratio between investment and jobs.

This is another in the Area Redevelopment Administration's "Bookshelf of Community Aids." It was prepared by John A. Flory with the assistance of Charles W. Slifko. The publications in this series are designed to provide basic economic information directly related to helping create new growth and new jobs.



WILLIAM L. BATT, Jr., Administrator
Area Redevelopment Administration



INVESTMENT AND JOBS

Anyone who has driven by a large petroleum refinery could guess that it takes a lot of equipment—but not many workers—to produce gasoline. By the same token, the clogged streets of the Manhattan garment district at quitting time show pretty clearly that it doesn't take much space or elaborate equipment to provide a lot of jobs for garment workers.

Statistics confirm these impressions. In 1957, the petroleum refining industry had more than twenty times as much money invested in plant and equipment for each employed worker as did the apparel industry.

Differences like this are obviously significant in area redevelopment work. The type of industrial enterprise which is started or expanded, and the amount of money invested in it, will largely determine the number and kinds of new jobs that will be created.

This is not to suggest that the easy solution for an area of high unemployment is to start a clothing factory, for many other factors—including the type of jobs that would be created, the wage scales that would result, and the permanence of the industry—have an important bearing on how a community solves its unemployment problem.

This publication is a compilation of the best available figures bearing on the relationship between the investment outlays involved in various manufacturing ventures, and the number of persons that are employed. It shows, in general terms, how much money was required to set up a manufacturing plant in 1957, and how much additional money was required to get it into operation. Both measures are presented in terms of dollars per worker employed in each manufacturing industry covered.

Since 1957, some machinery prices have gone up as improvements have been made in machinery. All industry-wide averages are, by definition, based on the *total* equipment in the industry, some of which is out of date and, if replaced, would be replaced at higher figures than those represented by original costs.

For these and other reasons, it can safely be assumed that the average investment costs per worker in 1962 are somewhat higher than the 1957 data shown.

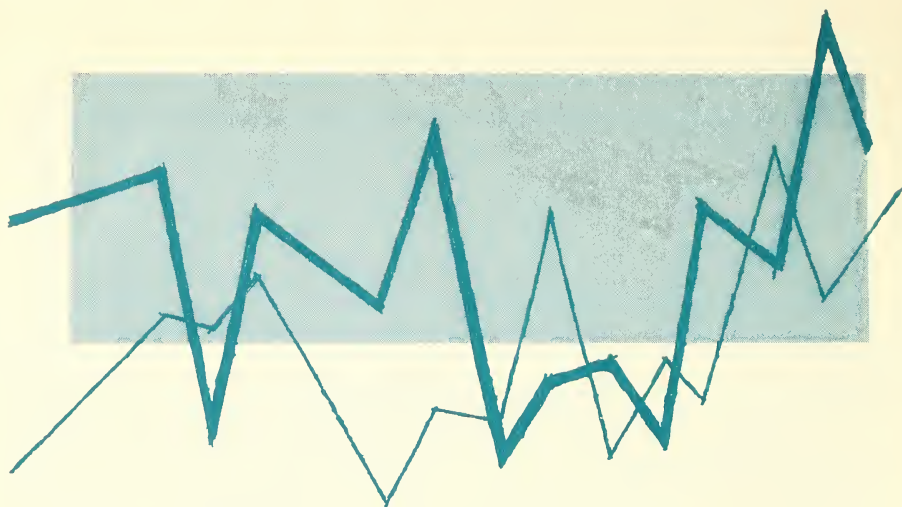
Just how much higher the 1962 figures would be is impossible to estimate with precision. Rough estimates based on the limited data available indicate that these figures are probably about one-third higher on the average than in 1957. However, industry by industry variations are probably very great and estimates of the current figures in a particular industry must be made with caution.

ON THE AVERAGE

In 1957, manufacturing industries in the United States had a total of \$203 billion invested in working assets, and employed 16,630,000 workers. This means the average investment was \$12,200 per worker.

Working assets include plant and equipment as well as current assets. It is, therefore, important to know how much of the total investment is accounted for by plant and equipment costs alone.

For all manufacturing industries, the 1957 total investment in plant and equipment was \$110.5 billion, or \$6,644 per employee. For the lowest one-fourth of the 278 individual industries studied, plant and equipment costs per employee averaged less than \$3,400 (the lowest was \$344), while the top one-fourth averaged more than \$7,630 (the highest was \$49,375). In other words, half of all the manufacturing industries studied had investments in plant and equipment between \$3,400 and \$7,630 per worker.



IN GENERAL

In 1957, the petroleum, chemical and primary non-ferrous metals industries had very high investment requirements—in most cases over \$20,000 of plant and equipment per worker. Iron and steel, concrete and other “heavy” industries had investment costs per worker ranging from \$10,000 to \$20,000. The fabricated metal products, machinery, food, rubber products, textiles and transportation equipment industries, with investments ranging from \$5,000 to \$8,000 per worker, came close to the 1957 average for all manufacturing industries. At the lower end of the scale were such industries as furniture, apparel, and leather and leather goods, most of which had investment costs per worker of less than \$5,000.

These figures generally reflect the particular industry's technology. Industries which involve intricate assembly work and other skilled and semiskilled manual operations usually were characterized by low investment costs, while those industries which feature elaborate installations of complex equipment operated and maintained by more highly skilled workers were the ones with high investment costs.

In other words, the high-investment industries generally provided *better* jobs, while the low-investment industries tended to provide *more* jobs.

HOW TO USE THE TABLES

There are two basic tables in this publication.

Table I shows the investment costs for plant and equipment per worker in each of 278 individual manufacturing industries.

Table II gives figures on total working assets per worker in the twenty major manufacturing industry groups, as well as data on rental payments.

Both tables are preceded by a brief explanation of the sources of the figures. Because of the complexity of these statistics, community groups should be aware both of their use and their limitations.

Generally, the tables may be used to:

- (1) Compare the investment requirements per worker in one industry with similar data for another industry.
- (2) Pick out the high, low or medium capital-cost industries.
- (3) Get a *rough idea* of the number of jobs that may be expected to result from an investment in a new manufacturing plant, taking into account the increase in costs since 1957.

The tables should *not* be used to:

- (1) Make a case for choosing a low-capital industry over a high-capital industry, since the ratio between investment and jobs is only one of many valid points to be raised, and many factors must go into decisions that will create permanent new employment.
- (2) Determine with precision the number of jobs that would result from an investment of \$100,000 in Industry A in your community.

NOTES ON TABLE I

This table gives a breakdown of twenty major industries (two-digit Standard Industrial Classification codes) and individual industries (four-digit codes)¹ giving 1957 gross book value of depreciable or depletable assets (plant and equipment) both as total and as an average per employee for each industry.

¹ SIC codes refer to the breakdown of industry into major categories and several stages of subcategories, as defined by the Executive Office of the President, Bureau of the Budget, and as used by the Bureau of the Census. For example: Food and Kindred Products (Code 20), Dairy Products (Code 202), Ice Cream and Ices (Code 2024), etc. Codes used are those prior to the 1957 reclassification.

Since the values stated represent only a part of the total investment per employee, rough estimates were also made for current assets (mainly cash, notes, accounts receivable and inventories) and land ² for each of the major industry groups. The totals of all these values are used in this report to represent the "working assets" of the major industry groups, excluding corporate book values for investments, loans, intangible assets and "other assets." Table I lists these estimates of 1957 total "working assets" per employee for the major industry groups.

Value of current assets and land were not available for use with the individual industry asset figures. It is probable that inclusion of these values would show significant variations between particular four-digit industries and the major industry group of which they are a part. This could be particularly true in the tobacco industry, for example, since current assets and land make up about 85 percent of the "working asset" total of the group. Thus, because only depreciable and depletable asset values are shown, care should be exercised in comparing one individual industry with another, especially when individual industries being compared are from separate major industry groups.

NOTES ON TABLE II

This table ranks the twenty major industry groups in order of their estimated book value of investment in "working assets" per employee in 1957. Subsidiary detail is given for gross book value of depreciable and depletable assets (total and per employee), "working assets" (total and per employee), and average total manufacturing employment. The difference between the value of depreciable and depletable assets and that of total "working assets" is, as indicated earlier, comprised of estimated values for specified current assets (nearly 45 percent of all industry "working assets") and land (less than 3 percent of the total).

Since certain industries are heavier renters of assets than others, and since assets rented in one instance correspond to those owned in another Table II also provides a rough index of the extent to which rented assets supplant owned assets in each of the major industry groups. This index can be used to estimate more accurately the relative investment needs of

² There is no published source for data on current assets and land as they appear in the tables. The basic data for these computed estimates came from Statistics on Income, 1957-58; Corporation Income Tax Returns, U.S. Treasury Department, Internal Revenue Service; and an unpublished Treasury Depreciation Survey Table, Diversity of Industrial Activity Within the Statistics of Income Groups in Terms of Gross Investment in Treasury Depreciation Survey Activities.

the major industries. It was computed by dividing rental payments in 1957 by selected costs and expenses (maintenance and repair, insurance, taxes, depreciation and depletion) relating to owned assets.

The apparel and related products group, which ranks first in ratio of rental assets, illustrates the extent to which this factor can influence the figures. Although it lists owned "working assets" per employee of only \$4,600, the industry group's rental payments are equal to about 46.5 percent of its property costs and expenses and, since these costs and expenses are somewhat comparable to the costs of rent, an estimated additional investment approaching 46.5 percent of that shown for plant and equipment would be required for all "working assets" of the group to be owned. Thus, total "working assets" per employee in the apparel and related products industry are probably closer to \$5,000 than the \$4,600 shown. By contrast, full ownership of "working assets" for *all* industry would require only an upward adjustment in plant and equipment values of less than 7.7 percent.

SOURCES AND LIMITATIONS OF DATA

The figures in these tables are based on data from:

- (1) Bureau of the Census estimates made from a sample survey of manufacturing establishments, and
- (2) A sampling made by the Internal Revenue Service of corporation income tax returns.

The Census data was collected from manufacturing *establishments* (i.e. individual plants) while the Internal Revenue Service data came from the books of *corporations* whose activities center in manufacturing.

The Census data consists of gross book value of depreciable or depletable assets outstanding on December 31, 1957; average employment (all employees) in 1957; costs and expenses relating mainly to owned assets in 1957; and rental payments made in 1957. Data obtained from the Internal Revenue Service consists of specified current assets (except investments) and book value of land, plus a breakdown for each major industry group of depreciable and depletable asset sample totals by type of industrial activity. The latter breakdown was used to adjust current asset and land values reported on a *corporate* basis to a more homogeneous form in order to combine them with the asset data gathered by Census on an *establishment* basis.

The figures on gross book value of depreciable and depletable assets³ (mainly plant and equipment) are basic to both Table I and Table II. The values as stated were taken from the books of establishments at the end of 1957 and represent price levels at the time the assets were purchased—one, five, and possibly ten years earlier. Thus, the assets as they existed in 1957 were *used* assets on the average and probably could have been purchased in their 1957 condition at prices well below original cost.

On the other hand, if the equivalent productive capacity of these assets were to be purchased today in the form of *new* assets, the cost would most likely be substantially higher. Moreover, the new, more expensive assets would, in most instances, be superior in capability to those existing in 1957 and therefore would require less labor per unit of output and still less per dollar of asset cost.

The 1957 values, therefore, quite obviously understate today's cost of investment per employee. Nevertheless, a comparison of these 1957 values between industries is useful as an indication of *relative* cost—and the main purpose of this publication is to make possible such comparison.

Current assets on the books of manufacturing corporations at the end of 1957 probably represent a fair value to include in per-employee investment costs, and one that may not have changed appreciably in the past five years. However, since the data was collected through a substantially different process from that used for depreciable and depletable assets, and since the source of data on current assets was *corporate* books rather than *establishment* accounts, the data is only roughly approximate. Value of land was computed in a manner similar to that of current assets, but is subject to some additional error because of its undeterminable purchase date. Nevertheless, a number of adjustments have been made to bring the current asset and land values in line with the depreciable and depletable asset values. Therefore, the total of all these values, as given in Table I, should provide a very rough but useful aid to making cost-of-investment-per-employee comparisons among the twenty major industries.

³ Published source: Supplementary employee costs, cost of maintenance and repair, insurance, rent, taxes, and depreciation and book value of depreciable assets: 1957, Subject Report MC58(1)-9. U.S. Bureau of the Census.

TABLE I

INVESTMENT AND EMPLOYMENT RELATIONSHIPS IN MANUFACTURING INDUSTRIES: 1957

CODE	INDUSTRY	Gross book value of depreciable and depletable assets		"Working ³ assets" per employee
		Value ¹ (\$ millions)	Average ² per employee	
	All industries	110,489.2	6,644	12,200
20	Food and kindred products	11,731.4	6,949	13,000
201	Meat products	1,504.6	4,805	NA
2011	Meat packing	1,168.3	5,551	NA
202	Dairy products	2,063.7	6,954	NA
2024	Ice cream and ices	383.0	10,826	NA
2027	Fluid milk and other	1,133.8	5,980	NA
203	Canned and frozen foods	1,144.7	5,366	NA
2033	Canned fruits and vegetables	734.2	5,457	NA
204	Grain mill products	1,017.0	9,471	NA
2041	Flour and meal	330.6	12,208	NA
2042	Prepared animal feeds	484.0	8,263	NA
2043	Cereals	91.9	8,085	NA
205	Bakery products	1,268.6	4,176	NA
2051	Bread and related products	1,033.0	3,931	NA
2052	Biscuits and crackers	235.3	5,749	NA
206	Sugar	529.5	18,710	NA
2062	Cane refining	182.7	11,860	NA
207	Candy and related products	390.1	4,878	NA
2071	Confectionery products	271.7	4,060	NA
2072	Chocolate and cocoa products	78.8	9,759	NA
2073	Chewing gum	39.7	7,927	NA
208	Beverages	2,308.6	11,408	NA
2081	Bottled soft drinks	740.9	7,769	NA
2082	Beer and ale	1,183.2	15,287	NA
2084	Wines and brandy	59.6	9,753	NA
2085	Distilled liquor	246.4	11,812	NA
209	Miscellaneous foods	1,504.5	10,500	NA
2091	Leavening compounds	39.6	18,312	NA
2092	Shortening and cooking oils	241.8	24,912	NA
2094	Corn wet milling	268.3	20,150	NA
2099	Food preparations, n.e.c.	426.0	5,347	NA
21	Tobacco manufactures	399.6	4,535	31,000
2111	Cigarettes	236.0	7,357	NA
2121	Cigars	51.1	1,547	NA
2131	Chewing and smoking tobacco	31.1	4,868	NA
22	Textile mill products	4,983.6	5,039	9,300
221	Woolen and worsted manufactures	493.6	5,679	NA
2213	Woolen and worsted fabrics	314.1	5,518	NA
222	Yarn and thread mills	595.7	5,796	NA
2223	Thread mills	81.9	6,435	NA
2224	Yarn, cotton system	465.7	5,964	NA
223	Broadwoven fabrics	1,907.1	5,548	NA
2233	Cotton	1,460.1	5,459	NA
2234	Synthetic	447.0	5,859	NA
2241	Narrow fabrics	86.1	3,209	NA
225	Knitting mills	724.2	3,151	NA
2251	Full-fashioned hosiery	224.2	4,608	NA

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INVESTMENT AND EMPLOYMENT RELATIONSHIPS IN MANUFACTURING INDUSTRIES: 1957

CODE	INDUSTRY	Gross book value of depreciable and depletable assets		"Working ³ assets" per employee
		Value ¹ (\$ millions)	Average ² per employee	
2252	Seamless hosiery	189.9	2,807	NA
2253	Knit outerwear	111.9	1,900	NA
2254	Knit underwear	69.9	2,227	NA
2256	Knit fabric	97.6	5,201	NA
2261	Finishing textiles, except wool	491.9	6,310	NA
227	Carpets and rugs	339.0	6,627	NA
2271	Wool	166.5	6,073	NA
2273	Except wool	55.1	3,670	NA
2274	Hardsurfaced coverings	117.4	13,443	NA
228	Hats, except cloth and millinery	26.2	2,107	NA
229	Miscellaneous textile goods	319.9	5,585	NA
2291	Felt goods, n.e.c.	29.6	5,054	NA
2294	Processed textile waste	25.7	4,286	NA
2295	Coated fabrics, except rubber	74.9	8,252	NA
2298	Cordage and twine	64.2	5,495	NA
2299	Textile goods, n.e.c.	47.1	5,612	NA
23	Apparel and related products	1,005.8	796	4,600
231	Men's and boys' suits, coats	89.3	699	NA
2311	Men's and boys' suits, coats	89.0	719	NA
232	Men's and boys' furnishings	205.1	681	NA
2321	Men's shirts and nightwear	69.3	663	NA
2322	Men's and boys' underwear	9.6	844	NA
2323	Men's and boys' neckwear	7.4	724	NA
2327	Separate trousers	33.9	646	NA
2329	Men's and boys' clothing, n.e.c.	71.9	726	NA
233	Women's, misses' outerwear	198.3	524	NA
2331	Blouses	22.8	502	NA
2333	Dresses, unit-price	52.2	344	NA
2334	Dresses, dozen-price	32.2	647	NA
2337	Suits, coats	65.7	652	NA
234	Women's, misses' undergarments	119.2	975	NA
2341	Underwear	66.2	827	NA
2342	Corsets and allied	53.0	1,254	NA
2351	Millinery	10.9	477	NA
236	Children's outerwear	59.0	665	NA
2361	Dresses	19.0	584	NA
2369	Outerwear, n.e.c.	23.0	592	NA
238	Miscellaneous apparel	56.5	854	NA
2384	Robes and dressing gowns	6.0	534	NA
2389	Belts	9.6	729	NA
239	Fabricated textiles, n.e.c.	264.8	1,818	NA
2391	Curtains and draperies	10.5	694	NA
2392	House furnishings, n.e.c.	79.2	1,892	NA
2393	Textile bags	37.9	3,476	NA
2399	Textile products, n.e.c.	29.8	1,297	NA
24	Lumber and wood products	2,917.5	4,518	7,400
2411	Logging camps, contractors	513.4	6,480	NA
242	Lumber and basic products	1,674.7	5,065	NA
2421	Sawmills and planing mills	1,570.1	5,060	NA

TABLE I

INVESTMENT AND EMPLOYMENT RELATIONSHIPS IN MANUFACTURING INDUSTRIES: 1957

CODE	INDUSTRY	Gross book value of depreciable and depletable assets		"Working ³ assets" per employee
		Value ¹ (\$ millions)	Average ² per employee	
243	Millwork and related products	437.1	3,593	NA
2431	Millwork	188.9	2,736	NA
2432	Plywood	208.1	4,967	NA
2433	Prefabricated wood products	40.1	3,745	NA
244	Wooden containers	121.1	2,695	NA
2441	Fruit, vegetable baskets	9.8	1,424	NA
2444	Boxes	90.8	2,799	NA
249	Miscellaneous wood products	206.9	2,984	NA
2491	Wood preserving	83.3	5,062	NA
2493	Mirror and picture frames	6.2	1,139	NA
2499	Wood products, n.e.c.	115.3	2,512	NA
25	Furniture and fixtures	1,040.9	2,777	6,000
251	Household furniture	693.4	2,598	NA
2511	Wood furniture, not upholstered	356.6	2,743	NA
2512	Housefurniture, upholstered	117.1	1,759	NA
2514	Metal household furniture	113.6	3,161	NA
2515	Mattresses and bedsprings	103.4	3,159	NA
252	Office furniture	99.8	3,885	NA
2521	Wood	19.5	3,389	NA
2522	Metal	80.4	4,028	NA
253	Public and professional furniture	72.2	3,052	NA
2531	Public buildings furniture	41.9	2,804	NA
2541	Partitions and fixtures	100.4	2,870	NA
26	Pulp, paper and products	7,165.2	12,662	19,900
261	Pulp, paper and board	5,118.8	22,606	NA
2641	Paper coating and glazing	227.2	7,425	NA
2661	Paper bags	227.1	6,035	NA
267	Paperboard containers	880.0	5,626	NA
2671	Boxes	833.8	5,718	NA
2674	Fibercans, tubes, drums, etc.	46.2	4,365	NA
269	Pulp, paper products, n.e.c.	638.0	6,645	NA
2691	Die-cut paper and board	72.9	5,326	NA
2699	Paper and board products, n.e.c.	500.2	6,521	NA
27	Printing and publishing	3,697.6	4,262	8,200
2711	Newspapers	1,405.4	4,553	NA
2721	Periodicals	193.1	3,031	NA
273	Books	253.2	4,137	NA
2731	Printing and publishing	161.2	4,242	NA
2732	Printing	92.0	3,965	NA
2751	Commercial printing	1,099.4	5,044	NA
2761	Lithographing	411.7	4,934	NA
278	Bookbinding and related industries	94.8	2,326	NA
2781	Bookbinding	38.6	1,986	NA
279	Printing trade services	163.6	3,178	NA
28	Chemicals and products	13,105.0	17,155	25,000
281	Inorganic chemicals	2,404.2	20,508	NA
2811	Sulfuric acid	154.2	38,242	NA
2812	Alkalies and chlorine	768.9	35,880	NA
2819	Inorganic chemicals, n.e.c.	1,481.2	16,140	NA

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CODE	INDUSTRY	Gross book value of depreciable and depletable assets		"Working ³ assets" per employee
		Value ¹ (\$ millions)	Average ² per employee	
282	Organic chemicals	6,420.6	24,580	NA
2822	Intermediate and original colors	856.1	24,750	NA
2823	Plastic materials	1,076.6	20,465	NA
2824	Synthetic rubber	291.6	28,035	NA
2825	Synthetic fiber	1,457.3	22,405	NA
2826	Explosives	175.5	8,171	NA
2829	Organic chemicals, n.e.c.	2,527.7	33,459	NA
283	Drugs and medicines	940.2	9,930	NA
2834	Pharmaceutical preparations	699.7	8,869	NA
284	Soap and related products	520.5	11,201	NA
2841	Soap and glycerin	348.8	13,954	NA
2842	Cleaning and polishing products	149.5	7,906	NA
285	Paints and allied products	668.3	8,992	NA
2851	Paints and varnishes	376.5	6,346	NA
2852	Inorganic color pigments	287.2	21,540	NA
287	Fertilizers	377.3	12,428	NA
2871	Fertilizers	280.6	15,133	NA
2872	Fertilizers, mixing only	96.7	8,184	NA
288	Vegetable and animal oils	636.5	16,805	NA
2881	Cottonseed oil mills	190.3	18,161	NA
2886	Grease and tallow	95.0	7,729	NA
2887	Fatty acids	47.0	24,062	NA
289	Chemical products, n.e.c.	965.3	10,267	NA
2891	Printing ink	46.2	5,434	NA
2893	Toilet preparations	136.3	4,773	NA
2894	Glue and gelatin	60.0	8,238	NA
2896	Compressed and liquified gases	248.1	24,208	NA
2899	Chemical products, n.e.c.	220.7	8,703	NA
29	Petroleum and coal products	7,936.5	42,770	56,000
2911	Petroleum refining	7,599.8	49,375	NA
295	Paving and roofing material	247.7	11,766	NA
299	Petroleum and coal products, n.e.c.	89.0	8,405	NA
2992	Lubricants, n.e.c.	61.1	7,207	NA
30	Rubber products	1,782.4	6,858	14,000
3011	Tires and inner tubes	900.7	9,296	NA
3021	Rubber footwear	66.2	3,282	NA
3031	Reclaimed rubber	38.7	14,100	NA
3099	Rubber industries, n.e.c.	776.8	5,545	NA
31	Leather and leather goods	466.8	1,290	4,400
3111	Tanning and finishing	162.3	4,048	NA
3131	Footwear cut stock	30.0	1,335	NA
314	Footwear, excluding rubber	194.2	826	NA
3141	Footwear, excluding rubber	182.9	822	NA
3142	House slippers	11.3	892	NA
3161	Luggage	35.7	2,026	NA
317	Purses, small leather goods	19.8	655	NA
3171	Handbags and purses	14.0	601	NA
3172	Small goods	5.9	833	NA
32	Stone, clay and glass	5,153.2	9,804	14,200

TABLE I

INVESTMENT AND EMPLOYMENT RELATIONSHIPS IN MANUFACTURING INDUSTRIES: 1957

CODE	INDUSTRY	Gross book value of depreciable and depletable assets		"Working ³ assets" per employee
		Value ¹ (\$ millions)	Average ² per employee	
3211	Flat glass	388.1	14,868	NA
322	Pressed and blown glassware	606.4	6,030	NA
3221	Glass containers	356.5	6,571	NA
3229	Pressed and blown glass, n.e.c.	249.9	5,396	NA
3231	Products of purchased glass	132.2	5,657	NA
3241	Cement, hydraulic	1,414.6	34,035	NA
325	Structural clay products	510.6	6,825	NA
3251	Brick and hollow tile	206.2	6,528	NA
3253	Floor and wall tile	50.6	4,439	NA
3254	Sewerpipe	66.3	6,672	NA
3255	Clay refractories	152.8	8,866	NA
326	Pottery and related products	220.3	4,372	NA
3261	Vitreous plumbing fixtures	74.8	7,309	NA
3262	Vitreous-china food utensils	24.2	3,017	NA
3263	Earthenware food utensils	28.6	2,621	NA
3264	Porcelain electrical supplies	55.2	5,786	NA
327	Concrete and plaster products	1,036.6	10,226	NA
3271	Concrete products	496.9	7,112	NA
3272	Gypsum products	254.1	22,722	NA
3275	Mineral wool	146.4	12,188	NA
3281	Cut-stone and stone products	104.5	4,902	NA
329	Nonmetallic mineral products, n.e.c.	739.8	8,594	NA
3291	Abrasive products	185.4	7,607	NA
3292	Asbestos products	183.3	8,012	NA
3293	Gaskets, asbestos insulations	70.8	5,493	NA
3297	Nonclay refractories	145.9	13,614	NA
3299	Nonmetallic mineral products, n.e.c.	23.2	5,284	NA
33	Primary metal industries	17,328.6	13,624	18,500
331	Blast furnaces, steel mills	11,909.3	18,835	NA
3312	Blast furnaces, steel mills	11,551.0	18,669	NA
3313	Electrometallurgic products	358.3	23,128	NA
332	Iron and steel foundries	1,250.4	5,509	NA
3321	Gray-iron foundries	724.9	5,328	NA
3322	Malleable-iron foundries	150.1	6,406	NA
3323	Steel foundries	375.4	5,563	NA
333	Primary nonferrous metals	1,292.9	22,143	NA
3331	Primary copper	195.5	12,990	NA
3332	Primary lead	75.2	17,415	NA
3333	Primary zinc	163.6	14,830	NA
3334	Primary aluminum	792.3	38,651	NA
3341	Secondary nonferrous metals	113.4	6,608	NA
335	Nonferrous rolling, drawing	1,081.7	10,759	NA
3351	Copper	401.3	9,430	NA
3352	Aluminum	524.1	11,788	NA
3359	Nonferrous, n.e.c.	156.3	11,559	NA
3361	Nonferrous foundries	353.9	4,518	NA
339	Primary metal industries	1,326.9	8,383	NA
3391	Iron and steel forgings	285.0	6,764	NA
3392	Wire drawing	549.3	9,144	NA

TABLE I

INVESTMENT AND EMPLOYMENT RELATIONSHIPS IN MANUFACTURING INDUSTRIES: 1957

CODE	INDUSTRY	Gross book value of depreciable and depletable assets		"Working ³ assets" per employee
		Value ¹ (\$ millions)	Average ² per employee	
3393	Welded, heavy-riveted pipe	197.9	7,498	NA
3399	Primary metal, n.e.c.	294.7	9,931	NA
34	Fabricated metal products	5,713.3	5,131	12,200
3411	Tin cans and tinware	646.3	11,799	NA
342	Cutlery, tools and hardware	722.4	4,927	NA
3421	Cutlery	49.6	3,438	NA
3423	Hand tools, n.e.c.	105.6	4,397	NA
3424	Files	12.5	4,911	NA
3425	Handsaws and blades	38.2	6,164	NA
3429	Hardware, n.e.c.	492.2	5,307	NA
343	Heating and plumbing equipment	564.4	5,605	NA
3431	Plumbing fixtures, fittings	193.3	6,979	NA
3439	Heating, cooking equipment, n.e.c.	371.1	5,083	NA
344	Structural metal products	1,375.8	4,022	NA
3441	Structural, ornamental work	556.7	4,056	NA
3443	Boiler shop products	401.6	4,628	NA
3444	Sheet metal work	183.9	3,539	NA
346	Metal stamping and coating	922.5	4,608	NA
3463	Metal stamping	749.3	5,603	NA
3471	Lighting fixtures	172.8	3,218	NA
348	Fabricated wire products, n.e.c.	275.8	4,237	NA
3489	Wirework, n.e.c.	264.9	4,251	NA
349	Metal products, n.e.c.	1,033.3	6,872	NA
3491	Barrels, drums, and pails	90.6	8,692	NA
3493	Steel springs	84.8	9,226	NA
3494	Bolts, nuts, washers, rivets	449.3	7,558	NA
3495	Screw machine products	207.6	5,362	NA
3496	Collapsible tubes	18.3	4,994	NA
3497	Metal foil	74.1	11,796	NA
3499	Fabricated products, n.e.c.	88.2	4,620	NA
35	Machinery, except electrical	9,421.1	5,517	12,900
351	Engines and turbines	529.7	5,899	NA
3519	Internal combustion engines	341.7	6,103	NA
352	Tractors, farm machinery	1,001.8	6,751	NA
3521	Tractors	596.4	8,240	NA
3522	Farm machinery, except tractors	405.4	5,333	NA
353	Construction, mining machinery	697.8	4,922	NA
3531	Construction and mining machinery	453.4	4,545	NA
3532	Oil-field machinery, tools	244.4	5,816	NA
354	Metalworking machinery	1,620.4	5,680	NA
3541	Machine tools	522.2	6,536	NA
3542	Metalworking machinery	374.0	6,126	NA
3545	Machinery attachments	272.1	5,213	NA
355	Special-industry machinery, n.e.c.	937.5	5,245	NA
3551	Food products machinery	178.8	5,560	NA
3552	Textile machinery	203.4	5,232	NA
3554	Paper industries machinery	102.8	5,354	NA
3555	Printing trades machinery	112.2	4,846	NA
3559	Special-industry machinery, n.e.c.	283.0	5,242	NA

TABLE I

INVESTMENT AND EMPLOYMENT RELATIONSHIPS IN MANUFACTURING INDUSTRIES: 1957

CODE	INDUSTRY	Gross book value of depreciable and depletable assets		"Working ³ assets" per employee
		Value ¹ (\$ millions)	Average ² per employee	
356	General industrial machinery	1,189.7	4,829	NA
3561	Pumps and compressors	300.5	4,838	NA
3563	Conveyors	146.5	4,124	NA
3565	Industrial trucks, tractors	67.2	3,736	NA
3566	Power transmission equipment	307.4	5,759	NA
3567	Industrial furnaces and ovens	42.7	4,121	NA
3569	General industrial machinery, n.e.c.	164.3	4,539	NA
357	Office and store machinery	836.0	6,428	NA
3571	Computing and related machinery	586.2	7,606	NA
3572	Typewriters	87.5	3,637	NA
3579	Office and store machinery, n.e.c.	155.8	6,989	NA
358	Service and household machinery	1,034.0	5,456	NA
3581	Domestic laundry equipment	146.7	6,698	NA
3582	Laundry and dry-cleaning	47.2	6,723	NA
3583	Sewing machines	62.2	5,292	NA
3584	Vacuum cleaners	37.0	5,305	NA
3585	Refrigeration machinery	639.6	5,137	NA
3586	Measuring, dispensing pumps	27.9	4,088	NA
3589	Service and household, n.e.c.	73.5	6,958	NA
359	Miscellaneous machinery parts	1,574.1	5,291	NA
3591	Valves, fittings, except plumbing	428.2	5,350	NA
3592	Fabricated pipe, fittings	63.4	4,436	NA
3593	Ball and roller bearings	426.8	7,831	NA
3599	Machine shops	583.5	4,618	NA
36	Electrical machinery	4,088.7	3,771	10,000
361	Electrical industrial apparatus	1,631.4	4,165	NA
3611	Wiring devices, supplies	216.7	4,361	NA
3612	Carbon and graphite products	128.2	12,938	NA
3614	Motors and generators	512.6	4,371	NA
3615	Transformers	228.0	4,742	NA
3616	Control apparatus	293.2	3,205	NA
3617	Welding apparatus	65.5	6,518	NA
3619	Apparatus, n.e.c.	71.7	3,170	NA
3621	Electrical appliances	200.7	3,887	NA
3641	Engine electrical equipment	195.3	3,839	NA
3651	Electric lamps (bulbs)	133.4	5,395	NA
366	Communication equipment	1,595.7	3,150	NA
3661	Radios and related products	751.0	2,416	NA
3662	Electronic tubes	333.9	3,912	NA
3663	Phonograph records	28.3	3,986	NA
3664	Telephone, telegraph equipment	455.2	4,954	NA
3669	Communication equipment, n.e.c.	27.3	2,396	NA
369	Electrical products, n.e.c.	200.7	5,124	NA
3691	Storage batteries	119.5	8,227	NA
3692	Primary batteries	27.2	3,379	NA
37	Transportation equipment	9,302.9	4,895	9,700
371	Motor vehicles and equipment	6,362.9	8,546	NA
3713	Truck and bus bodies	68.0	3,335	NA
3715	Truck trailers	61.8	3,764	NA

TABLE I

INVESTMENT AND EMPLOYMENT RELATIONSHIPS IN MANUFACTURING INDUSTRIES: 1957

CODE	INDUSTRY	Gross book value of depreciable and depletable assets		"Working ³ assets" per employee
		Value ¹ (\$ millions)	Average ² per employee	
3716	Automobile trailers	52.3	2,703	NA
3717	Motor vehicles and parts	6,180.7	8,979	NA
372	Aircraft and parts	1,936.8	2,050	NA
3721	Aircraft	760.2	1,368	NA
3722	Aircraft engines	582.9	3,217	NA
3723	Aircraft propellers	88.7	5,049	NA
3729	Aircraft equipment, n.e.c.	505.0	2,653	NA
373	Ships and boats	502.7	3,487	NA
3731	Shipbuilding and repairing	423.6	3,480	NA
3732	Boat building and repairing	79.1	3,528	NA
374	Railroad equipment	385.2	6,788	NA
3741	Locomotives and parts	149.2	7,177	NA
3742	Railroad and street cars	236.0	6,563	NA
38	Instruments and related products	1,262.9	4,111	11,100
3811	Scientific instruments	121.6	2,065	NA
3821	Mechanical measuring instruments	287.0	3,757	NA
384	Medical equipment and supplies	158.4	3,741	NA
3842	Surgical appliances and supplies	116.4	4,205	NA
3843	Dental equipment and supplies	24.7	3,629	NA
3861	Photographic equipment	498.8	7,722	NA
387	Watches and clocks	91.4	3,714	NA
3871	Watches and clocks	87.4	4,042	NA
39	Miscellaneous manufactures	1,986.5	2,987	6,900
391	Jewelry and silverware	113.8	2,496	NA
3912	Jewelers' findings	18.9	3,124	NA
3914	Silverware and plated ware	64.3	4,186	NA
393	Musical instruments, parts	56.7	3,062	NA
3931	Pianos	22.5	3,333	NA
394	Toys and sportings goods	218.6	2,159	NA
3941	Games and toys, n.e.c.	96.9	2,221	NA
3942	Dolls	23.1	1,119	NA
3949	Sporting and athletic goods	74.7	2,440	NA
395	Office supplies	107.9	3,641	NA
3955	Carbon paper and inked ribbons	21.8	3,901	NA
396	Costume jewelry and notions	157.2	2,546	NA
3961	Costume jewelry	29.8	1,228	NA
3963	Buttons	22.0	3,122	NA
3964	Needles, pins, fasteners	97.3	4,816	NA
3971	Plastic products, n.e.c.	512.8	4,596	NA
398 }				
399 }	Miscellaneous manufactures	819.4	1,232	NA
3983	Matches	17.4	3,276	NA
3988	Morticians' goods	39.7	2,320	NA
3998	Signs, advertising displays	117.5	3,109	NA
3995	Umbrellas, parasols, canes	3.3	955	NA
1900	Ordnance and accessories	482.0	2,836	NA

Note: Values for unreported 4-digit industries are included in major industry groups (2-digit) totals.

Abbreviations: n.e.c.—Not elsewhere classified. NA—Not available.

¹ Source: 1957 Census of Manufactures Special Report MC58(1)-9, U.S. Department of Commerce, Bureau of the Census. (Based on value reported by establishments. See text.)

² Source for employment: Annual Survey of Manufactures, 1957, U.S. Bureau of the Census. (All employees.)

³ Source: "Working assets" include those in Column 1, plus values for current assets and land reported to the Internal Revenue Service by corporations. (See text.)

TABLE II—INVESTMENT AND EMPLOYMENT RELATIONSHIPS IN MAJOR MANUFACTURING INDUSTRY GROUPS: 1957

Rank	Major industry groups by value of "working assets" per employee	Total gross book value (\$ million)			Gross book value per employee (\$)			Rental payments per \$100 of property costs and expense (\$)
		S.I.C. Code	Depreciable and depletable assets ¹	All "working" assets ²	All employees (thou- sands) ³	Depreciable and depletable assets ¹	All "working" assets ²	
All industries, total								
1	Petroleum and coal products	29	7,936	10,400	186	42,770	56,000	4.4
2	Tobacco manufactures	21	400	2,700	88	4,535	31,000	8.5
3	Chemicals and products	28	13,105	19,200	764	17,155	25,000	3.8
4	Primary metal industries	33	17,329	23,500	1,272	13,624	18,500	1.7
5	Pulp, paper and products	26	7,165	10,200	566	12,662	19,900	5.4
6	Stone, clay, and glass products	32	5,153	7,500	526	9,804	14,200	3.4
7	Rubber products	30	1,782	3,700	260	6,858	14,000	5.8
8	Food and kindred products	20	11,731	22,000	1,688	6,949	13,000	10.1
9	Machinery, except electrical	35	9,421	21,900	1,707	5,517	12,900	9.0
10	Fabricated metal products	34	5,713	13,600	1,114	5,131	12,200	10.4
11	Electrical machinery	38	1,263	3,400	307	4,111	11,100	12.3
12	Transportation equipment	36	4,089	10,900	1,084	3,771	10,000	11.3
13	Textile mill products	37	9,303	18,400	1,900	4,895	9,700	6.7
14	Printing and publishing	22	4,984	9,200	889	5,039	9,300	7.5
15	Lumber and wood products	27	3,698	7,200	867	4,262	8,200	23.9
16	Manufactures, n.e.c.	24	2,917	4,800	646	4,518	7,400	4.9
17	Furniture and fixtures	39	1,987	4,500	665	2,987	6,900	18.8
18	Apparel and related products	25	1,041	2,300	375	2,777	6,000	22.2
19	Leather and leather goods	23	1,006	5,800	1,264	796	4,600	46.5
20		31	467	1,600	362	1,290	4,400	29.6

NOTE: Columns may not add to totals because of independent rounding.

Abbreviation: n.e.c.—Not elsewhere classified.

¹ Source: 1957 Census of Manufactures Special Report MC58(1)—9, U.S. Department of Commerce, Bureau of Census. (Based on value reported by establishments. See text.)

² "Working Assets" include those in Column 1, plus values for current assets and land reported to the Internal Revenue Service by corporations, 1957-58. (See text.)

³ Source: Annual Survey of Manufactures, 1957, U.S. Bureau of the Census.

⁴ Source: Same as Footnote 1. (See text.)



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